Application Serial No: 10/570,051
In response to the Office Action mailed on: September 8, 2009

REMARKS

This Amendment is in response to the Office Action mailed on September 8, 2009. Claims 11-13 are cancelled without prejudice or disclaimer. Claims 14 and 15 are new. New claim 14 is supported for example, in the specification on page 10, lines 2-9 and in Figures 1 and 3-11. New claim 15 is supported, for example, in the specification on page 10, lines 15-17 and in Figures 1 and 3-11. No new matter is added. Claims 1-10, 14 and 15 are pending.

Drawing Objections:

Figure 12 is objected to as not being designated as prior art. As suggested by the Examiner, a Replacement Sheet of Figure 12 is submitted herewith so as to be designated as prior art. Withdrawal of this objection is requested.

§102 Rejections:

Claim 13 is rejected as being anticipated by Nishikawa (US Patent No. 6,304,384). This rejection is now moot as claim 13 is cancelled without prejudice or disclaimer. Applicants do not concede the correctness of this rejection.

§103 Rejections:

Claims 1-4 and 6-9 are rejected as being unpatentable over Applicants Admitted Prior Art (AAPA) in view of Uchiyama (US Patent No. 6,839,178). This rejection is traversed.

Claim 1 is directed to an imaging apparatus that recites, among other features, that the microlens array comprises grooves in a lattice form between the microlenses that are adjacent to each other.

The combination of AAPA and Uchiyama does not teach or suggest these features. The rejection relies on the light absorption material 102 in Figures 2(a) and 2(b) of Uchiyama as teaching the grooves of claim 1. However, nowhere does Uchiyama teach or suggest that the light absorption materials 102 are in a lattice form. In contrast, Uchiyama teaches that each of the light absorption materials 102 is located within individual lens members 105 (see Figure 2(a) of Uchiyama). Moreover, Figure 2(b) of

Uchiyama merely provides a cross-sectional view of the transmissive screen and an image light path, in a section taken along plane H-H' of Figure 2(a) (see column 8, lines 26-28 of Uchiyama). AAPA does not teach or suggest grooves and therefore does not overcome these deficiencies of Uchiyama.

Also, it would not be obvious to modify AAPA with features of Uchiyama to obtain the features of claim 1. AAPA is directed to a lens array for an imaging apparatus (see page 2, lines 23-30 of the present application). In contrast, Uchiyama is directed to methods for producing transmissive screens used in, for example, projection televisions. Thus, AAPA and Uchiyama are directed to unrelated arts and one skilled in the art of imaging apparatuses would not look to modify the features of the imaging apparatus taught by AAPA based on the teachings of Uchiyama.

For at least these reasons claim 1 is not suggested by the combination of AAPA and Uchiyama and should be allowed. Claims 2-4 and 6-9 depend from claim 1 and should be allowed for at least the same reasons.

Claims 5 and 10 are rejected as being unpatentable over AAPA in view of Uchiyama and further in view of Nishikawa. This rejection is traversed. Claims 5 and 10 depend from claim 1 and should be allowed for at least the same reasons discussed above. Applicants do not concede the correctness of this rejection.

Claims 11 and 12 are rejected as being unpatentable over Nishikawa. This rejection is now moot as claims 11 and 12 are cancelled without prejudice or disclaimer. Applicants do not concede the correctness of this rejection.

New claims 14 and 15:

In order to expedite the prosecution of this matter, the following is noted with respect to new claims 14 and 15 as they relate to AAPA and Uchiyama.

Claim 14 is directed to an imaging apparatus that recites, among other features, that the grooves are smaller than a thickness of the microlens array.

The combination of AAPA and Uchiyama does not teach or suggest these features. AAPA does not teach or suggest grooves. Also, Uchiyama teaches that liquid

droplets are discharged between the light-absorption materials 102, and a lens is formed using the surface tension of the liquid droplets (see Figure 1(b) and column 8, line 54-column 9, line 28 of Uchiyama). Thus, in order to retain the surface tension of the liquid droplets, the height of the light-absorption materials 102 needs to be substantially equal to the thickness of the lens array.

Accordingly, the combination of AAPA and Uchiyama cannot teach or suggest that the grooves are smaller than a thickness of the microlens array, as recited in claim 14. For at least these reasons, claim 14 is not suggested by the combination of AAPA and Uchiyama and should be allowed.

Claim 15 is directed to an imaging apparatus that recites, among other features, that the depth of the grooves is 70% or less of the thickness of the microlens array.

The combination of AAPA and Uchiyama does not teach or suggest these features. AAPA does not teach or suggest grooves. Also, as discussed above Uchiyama teaches that liquid droplets are discharged between the light-absorption materials 102, and a lens is formed using the surface tension of the liquid droplets (see Figure 1(b) and column 8, line 54-column 9, line 28 of Uchiyama). Thus, in order to retain the surface tension of the liquid droplets, the height of the light-absorption materials 102 needs to be substantially equal to the thickness of the lens array.

Accordingly, the combination of AAPA and Uchiyama cannot teach or suggest that the depth of the grooves is 70% or less of the thickness of the microlens array, as recited in claim 15. For at least these reasons, claim 15 is not suggested by the combination of AAPA and Uchiyama and should be allowed.

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Conclusion:

Applicants respectfully assert that the pending claims are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.

Respectfully submitted,

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